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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/566,977 | 02/02/2006 | Kazushige Nakamura | P29232 | 2853 |
| 52123 | 7590 | 04/02/2007 | EXAMINER | |
| GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191 | | | PASCHALL, MARK H | |
| | | ART UNIT | PAPER NUMBER | |
| | | 3742 | | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | NOTIFICATION DATE | DELIVERY MODE | |
| 3 MONTHS | | 04/02/2007 | ELECTRONIC | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/02/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gpatent@gpatent.com
pto@gpatent.com

| | | |
|------------------------------|------------------|-----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/566,977 | NAKAMURA ET AL. |
| | Examiner | Art Unit |
| | Mark H. Paschall | 3742 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-37 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 February 2006 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 05-03-2006.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9,13 and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Lehrke (4,501,952). Note heater 14, case 10, inlet 17, outlet 19 and turbulence generating element 12, which can be a metal spring, see column 4, line 1. As per claims 3 and 4 the turbulence generating element 12 is positioned both adjacent the inlet and the outlet. As per claim 6 the heating element is stick shaped and d and circular in shape. As per claim 13 the heater is sheathed .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10-12, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehrke. Lehrke teaches the claimed invention but does not mention use of eccentric positioning of the inlet and outlet and does not mention the specific heating element power specifics. One of ordinary skill in the art would find it obvious to position the inlets and outlets for maximum efficiency. As per claim 11 Lehrke teaches a heating element of 2550 Watts versus the claimed range of approximately not more than 2500 Watts. Such choice is not patentably limiting and well within the level of skill in the art, absent other undisclosed system parameters. Likewise claim 14 designates 50 watts/cm² versus Lehrke teaching 58 Watts/cm². The artisan would have found it obvious to design in the claimed range, such choice not patentably limiting.

Claims 17-31 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehrke in view of Japanese 322713

Lehrke teaches the claimed invention except for showing use of a plate means for heat sensing transfer. Japanese 713" teaches plate 8 as conventional and leading to accurate temperature sensing and in view of this teaching it would have been obvious to modify the Lehrke system with this enhanced temperature sensing system, to provide more accurate control of the fluid temperature. Note positioning of the plate adjacent the outlet in Japanese 713', as set forth in claim 19. Use of brazing to attach the plate and use of L-shaped plate are considered obvious choices in design, specific to the design criteria desired.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehrke in view of Japanese 106669'. In view of Japanese 669' showing the conventionality of using flow through heaters to heat wash water, it would have been obvious to modify the Lehrke system to use the heater in a washing environment, to enable more versatility.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Long et al and Rouf are cited for disclosing heating systems of interest to the disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H. Paschall whose telephone number is 571 272-4784. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark H Paschall
Mark H Paschall
Primary Examiner
Art Unit 3742

Mp